

What is claimed is:

1. A handwriting trajectory recognition system, comprising:

5 a motion detection unit adapted to output electric signals based on changes in acceleration of a body of the system in space; and

a control unit adapted to detect non-stroke regions intervals where the motions of the system body are temporarily stopped and recover handwritings based on the electric signals.

10 2. The handwriting trajectory system of claim 1, wherein the control unit determines a range of time where a stroke is present by comparing a standard deviation of the acceleration against a threshold.

15 3. The handwriting trajectory recognition system of claim 1, wherein the control unit determines a start of a stroke by comparing standard deviation of a fixed number of samples of acceleration starting prior to the start up to a fixed time subsequent to the start against a threshold.

20 4. The space handwriting trajectory recognition system of claim 1, wherein the control unit determines an end of the stroke by comparing a standard deviation of a fixed number of samples up to the end of the stroke against the threshold.

5. The handwriting trajectory recognition system of claim 1, wherein the control unit determines an instant time k_1 to be a start of a stroke if $\sigma_{|A_n|}^s(k) < \sigma_{th}$ for a time interval $[k, k+H]$,

5 where $\sigma_{|A_n|}^s(k)$ denotes a standard deviation for accelerations $|A_n|$ for S samples up to the k,

σ_{th} is a threshold value for the standard deviation, and

H is a minimum time interval for which $\sigma_{|A_n|}^s(k)$ is smaller than the threshold value σ_{th} .

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6. The space handwriting trajectory recognition system of claim 2, wherein the control unit determines (k - S) to be an end of the stroke if $\sigma_{|A_n|}^s(k) > \sigma_{th}$ for the time interval $[k, k+H]$ within a time $k \geq k_1 + W$,

where W denotes a minimum time interval prescribed for writing one stroke.

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7. A handwriting trajectory recognition method comprising:

detecting changes in acceleration of a body of the system in space;

deciding non-stroke regions if there exist intervals where motions of the system body are temporarily stopped; and

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recovering handwritings by the system body based on decision results.

8. The method of claim 7, where a range of time where a stroke is present is detected by comparing a standard deviation of the acceleration against a threshold.

9. The method of claim 7 where a start of a stroke is determined by comparing
5 standard deviation of a fixed number of samples of acceleration starting prior to the start up to a fixed time subsequent to the start against a threshold.

10. The method of claim 7 where an end of the stroke is determined by comparing a standard deviation of a fixed number of samples up to the end of the stroke
10 against the threshold.

11. The method of claim 7, wherein an instant time k_1 is determined to be a start of a stroke if $\sigma_{|A_n|}^s(k) < \sigma_{th}$ for a time interval $[k, k+H]$,

where $\sigma_{|A_n|}^s(k)$ denotes a standard deviation for accelerations $|A_n|$ for S samples
15 up to the k,

σ_{th} is a threshold value for the standard deviation, and

H is a minimum time interval for which $\sigma_{|A_n|}^s(k)$ is smaller than the threshold value σ_{th} .

12. The space handwriting trajectory recognition system as claimed in claim 2, wherein the control unit determines (k - S) to be an end of the stroke if $\sigma_{|A_n|}^s(k) > \sigma_{th}$ for the time interval [k, k+H] within a time $k \geq k_1 + W$, where W denotes a minimum time interval prescribed for writing one stroke.